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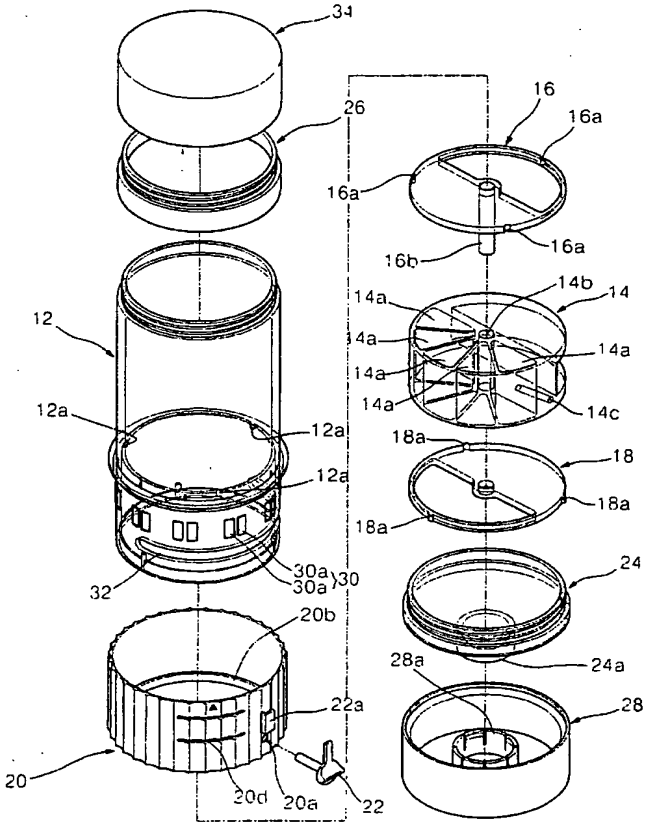

(57) Abstract: Disclosed is a portable powdered milk container. The container comprises a powdered milk storing section for storing powdered milk; a quantity adjusting section placed in the powdered milk storing section and having a plurality of accommodating compartments each for accommodating a predetermined quantity of powdered milk, with the accommodating compartments being defined only in one half of the quantity adjusting section; an upper partitioning member having one half which is defined with a first opening and the other half which is formed to have a plate-shaped contour; a lower partitioning member having one half which is defined with a second opening and the other half which is formed to have a plate-shaped outline, the lower partitioning member having a phase difference of 180° from the upper partitioning member; a quantity adjusting cover fitted around the powdered milk storing section and connected with the quantity adjusting section by a connection pin in such a way as to be integrally rotated with the quantity adjusting section; a powdered milk discharging cap coupled to a lower end of the powdered milk storing section and having a funnel-shaped discharging port which guides discharge of powdered milk from the quantity adjusting section; and an upper cover coupled to an upper end of the powdered milk storing section.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

PORTABLE POWDERED MILK CONTAINER

Technical Field

The present invention relates to a powdered milk can, and more particularly, the present invention relates to a portable powdered milk container which has a dispensing structure capable of precisely and easily dispensing a desired quantity of powdered milk.

Background Art

Generally, a powdered milk can has a cylindrical configuration. At home, a desired quantity of powdered milk is taken out of the powdered milk can using a spoon, and is reconstituted in a bottle to nurse a baby.

Since a space for keeping a powdered milk can is always secured at home, it is convenient to take powdered milk out of the can. However, in a motor vehicle traveling on a road or outside a home, because it is bothersome to carry the powdered milk can which has substantially a large size, a portable powdered milk container which can be easily carried while containing a necessary amount of powdered milk, is used.

Where the portable powdered milk container is used in a motor vehicle, there is a high probability of spilling the contents of the container upon directly opening a lid of the

container. In this regard, a portable powdered milk container has been disclosed in the art, in which a discharging port is formed on a side of the container to allow powdered milk to be stably taken out of the container through the discharging port. Also, other containers which have dispensing structures capable of adjusting a powdered milk quantity discharged from the containers, have been described in the art.

In the containers having the dispensing structures capable of dispensing a desired quantity of powdered milk, an inner space is divided into a multitude of compartments, or a rotary type discharging port is formed at a discharging end of the container so that a predetermined quantity of powdered milk can be discharged per rotation of the discharging port.

In the case of the rotary type discharging port, one end of the container is formed like the neck of a bottle, and the discharging port is installed on this end. After a desired quantity of powdered milk is discharged by rotation of the discharging port, powdered milk should be refilled in an emptied space. At this time, due to binding force of the powdered milk which is very fine, the emptied space is unlikely to be refilled with the powdered milk.

Hence, inconvenience is caused in that a discharging operation for dispensing the desired quantity of powdered milk cannot be precisely performed and it is necessary to shake the

container to refill the emptied space. On the other hand, in the container of which an inner space is divided into a multitude of compartments, discharging ports must be formed for the respective compartments, and complicated disassembling and assembling procedures must be conducted upon supplying powdered milk into the container.

As a consequence, while it is necessary to precisely dispense a desired quantity of powdered milk, the conventional portable powdered milk containers suffer from defects in that their structures are complex and it is difficult to reliably take a desired quantity of powdered milk out of the container.

Disclosure of Invention

Accordingly, the present invention has been made in an effort to solve the problems occurring in the related art, and an object of the present invention is to provide a portable powdered milk container which can be easily carried and can be handled in a simple way to precisely and reliably dispense a desired quantity of powdered milk.

In order to achieve the above object, according to the present invention, there is provided a portable powdered milk container comprising: a cylindrical powdered milk storing section for storing powdered milk; a quantity adjusting section placed in the powdered milk storing section and formed into a

cylindrical structural body which has a plurality of accommodating compartments each for accommodating a predetermined quantity of powdered milk, the accommodating compartments being defined only in one half of the structural body; an upper partitioning member having one half which is defined with a first opening and the other half which is formed to have a plate-shaped contour, the upper partitioning member being placed in the powdered milk storing section prior to the quantity adjusting section, to fix a position of the quantity adjusting section arranged underneath it; a lower partitioning member having one half which is defined with a second opening and the other half which is formed to have a plate-shaped outline, the lower partitioning member being placed in the powdered milk storing section posterior to the quantity adjusting section while having a phase difference of 180° from the upper partitioning member, to fix the position of the quantity adjusting section arranged over it; a quantity adjusting cover fitted around the powdered milk storing section and connected with the quantity adjusting section by a connection pin in such a way as to be integrally rotated with the quantity adjusting section; a powdered milk discharging cap coupled to a lower end of the powdered milk storing section and having a funnel-shaped discharging port which guides discharge of powdered milk from the quantity adjusting section; and an

upper cover coupled to an upper end of the powdered milk storing section.

Brief Description of Drawings

The above objects, and other features and advantages of the present invention will become more apparent after a reading of the following detailed description when taken in conjunction with the drawings, in which:

FIG. 1 is a perspective view illustrating a portable powdered milk container capable of precisely dispensing a desired quantity of powdered milk, in accordance with an embodiment of the present invention, with a lower cover detached therefrom;

FIG. 2 is an exploded perspective view of the portable powdered milk container according to the present invention;

FIG. 3 is a cross-sectional view independently illustrating a quantity adjusting cover of the portable powdered milk container according to the present invention;

FIG. 4 is a cross-sectional view independently illustrating a powdered milk storing section of the portable powdered milk container according to the present invention; and

FIGs. 5a, 5b, 5c and 5d are views respectively illustrating states wherein a quantity adjusting section is sequentially rotated in the portable powdered milk container

according to the present invention.

Best Mode for Carrying Out the Invention

Reference will now be made in greater detail to a preferred embodiment of the invention, an example of which is illustrated in the accompanying drawings. The same reference numerals will be used throughout the drawings and the description to refer to the same or like parts.

Referring to FIG. 1, a portable powdered milk container capable of precisely dispensing a desired quantity of powdered milk, in accordance with an embodiment of the present invention, largely comprises a powdered milk storing section 12, a quantity adjusting section 14, an upper partitioning member 16, a lower partitioning member 18, a quantity adjusting cover 20, a connection pin 22, a powdered milk discharging cap 24, an upper cover 26 and a lower cover 28.

Describing the present invention with respect to respective component elements, as can be readily seen from FIG. 2, the powdered milk storing section 12 serves to store powdered milk and has a cylindrical configuration. The upper cover 26 is coupled to an upper end of the powdered milk storing section 12, and the powdered milk discharging cap 24 is coupled to a lower end of the powdered milk storing section 12. An external thread is formed on a circumferential outer surface

of the powdered milk storing section 12 adjacent to an upper end thereof, and an internal thread is formed on a circumferential inner surface of the upper cover 26. Therefore, the upper cover 26 is threadedly coupled to the powdered milk storing section 12 by screwing the external thread into the internal thread. A receiving canister 34 is threadedly coupled to an upper end of the upper cover 26 so that implements, such as a spoon and the like, needed for nursing can be received in the receiving canister 34. The powdered milk storing section 12 is formed with quantity indicating scales, a plurality of quantity adjusting parts and a guide slot. Positions of the adjusting parts and the guide slot are determined with reference to the quantity indicating scales, as will be described later.

The quantity adjusting section 14 is placed in the powdered milk storing section 12 to be brought into contact with a circumferential inner surface of the powdered milk storing section 12. The quantity adjusting section 14 is fitted into the powdered milk storing section 12 in a manner such that it can be rotated therein to adjust a quantity of powdered milk which is to be discharged from the container at a time. The quantity adjusting section 14 is formed into a cylindrical structural body which has a plurality of accommodating compartments 14a each for accommodating a

predetermined quantity of powdered milk. Each accommodating compartment 14a is opened at its upper and lower ends. The accommodating compartments 14a are defined only in one half of the structural body. The other half of the structural body is closed. The plurality of accommodating compartments 14a are continuously defined through the same angle along a circumferential direction. A shaft hole 14b is defined through a center portion of the quantity adjusting section 14, and a pin hole 14c is radially defined in the quantity adjusting section 14 adjacent to a lower end thereof.

The upper partitioning member 16 and the lower partitioning member 18 are brought into close contact with upper and lower ends of the quantity adjusting section 14, respectively, to fixedly maintain the quantity adjusting section 14. By the presence of upper and lower partitioning members 16 and 18, a quantity of powdered milk which is to be discharged from the container at a time, can be determined by rotating the quantity adjusting section 14. That is to say, the upper partitioning member 16 possesses a circular plate-shaped configuration. One half of the upper partitioning member 16 is defined with a first semi-spherical opening, and the other half of the upper partitioning member 16 is formed to have a plate-shaped contour. Several first fastening grooves 16a are defined on a circumferential outer surface of the upper

partitioning member 16. First protrusions 12a which are to be respectively engaged into the first fastening grooves 16a, are formed on the circumferential inner surface of the powdered milk storing section 12. A position where the upper partitioning member 16 is fastened with respect to the powdered milk storing section 12, should be determined in consideration of the quantity adjusting section 14.

A rotation shaft 16b is formed on a center portion of the upper partitioning member 16. The rotation shaft 16b has a length which is longer than that of the shaft hole 14b which is defined through the quantity adjusting section 14, so that the lower partitioning member 18 can be fitted around the rotation shaft 16b as will be described below.

As in the case of the upper partitioning member 16, the lower partitioning member 18 possesses a circular plate-shaped configuration. One half of the lower partitioning member 18 is defined with a second semi-spherical opening, and the other half of the lower partitioning member 18 is formed to have a plate-shaped outline. Several second protrusions 18a are formed on a circumferential outer surface of the lower partitioning member 18. Second engaging grooves 12b into which the second protrusions 18a are to be respectively engaged, are defined on the circumferential inner surface of the powdered milk storing section 12. By engagement of the second

protrusions 18a into the second engaging grooves 12b, the lower partitioning member 18 is fastened with respect to the powdered milk storing section 12.

The quantity adjusting cover 20 is fitted around the powdered milk storing section 12. The quantity adjusting cover 20 is integrally rotated with the quantity adjusting section 14 while being connected with each other. In order to allow the quantity adjusting cover 20 and the quantity adjusting section 14 to be integrally rotated with each other, a guide slot 32 is defined on a circumferential outer surface of the powdered milk storing section 12, and a connecting hole 20a is defined through the quantity adjusting cover 20. By inserting a connection pin 22 into the pin hole 14c through the connecting hole 20a, the quantity adjusting cover 20 and the quantity adjusting section 14 are connected with each other. On the basis of an angle through which the guide slot 32 extends, a rotation angle of the quantity adjusting cover 20 is determined. The angle of the guide slot 32 substantially corresponds to a rotation angle of 180° of the quantity adjusting section 14. Accordingly, one end of the guide slot 32 corresponds to an initial (non-rotated) position of the quantity adjusting section 14, and the other end of the guide slot 32 corresponds to a final (fully rotated) position of the quantity adjusting section 14.

In order to allow a desired quantity of powdered milk to be discharged out of the container while the quantity adjusting cover 20 is rotated around the powdered milk storing section 12, the quantity adjusting cover 20 must be configured in a manner such that a rotating angle of the quantity adjusting cover 20 can be adequately adjusted while the quantity adjusting cover 20 is freely rotated around the powdered milk storing section 12. To this end, as shown in FIG. 2, a plurality of adjusting parts 30 are formed on the circumferential outer surface of the powdered milk storing section 12 around which the quantity adjusting cover 20 is fitted, in a manner such that the adjusting parts 30 are spaced apart one from another by a predetermined angle. The predetermined angle by which the adjusting parts 30 are spaced apart one from another, corresponds to an angle by which the scales formed on the circumferential outer surface of the powdered milk storing section 12 are spaced apart one from another. Also, the predetermined angle approximately corresponds to the angle through which each receiving compartment 14a is defined. Each adjusting part 30 comprises a pair of engaging projections 30a and 30b which are oppositely positioned to each other and separated from each other by a preset fine distance.

As described above, the quantity adjusting cover 20 is

rotated around the powdered milk storing section 12. At this time, when considering a radial dimension of the adjusting part 30, the quantity adjusting cover 20 should have an inner diameter which is larger than an outer diameter of the powdered milk storing section 12. Due to this, the quantity adjusting cover 20 may be loosened when fitted around the powdered milk storing section 12. In order to prevent the quantity adjusting cover 20 from being loosened, a circumferential inward flange 20b is formed on a circumferential inner surface of and adjacent to a lower end of the quantity adjusting cover 20. When the quantity adjusting cover 20 is fitted around the powdered milk storing section 12 in a state wherein the circumferential inward flange 20b is formed on the circumferential inner surface of and adjacent to the lower end of the quantity adjusting cover 20, an upper end of the quantity adjusting cover 20 may still be loosened. In order to avoid loosening of the upper end of the quantity adjusting cover 20, a circumferential outward flange 12c is formed on the circumferential outer surface of the powdered milk storing section 12, in a manner such that the circumferential outward flange 12c is brought into contact with the upper end of the quantity adjusting cover 20. The circumferential outward flange 12c has the same radial dimension as the circumferential inward flange 20b.

As can be readily seen from FIG. 3, a plurality of adjusting prominences 20c are formed on a middle portion of the circumferential inner surface of the quantity adjusting cover 20. By this, when the quantity adjusting cover 20 is rotated around the powdered milk storing section 12, the adjusting prominences 20c of the quantity adjusting cover 20 are rubbed against the engaging projections 30a and 30b of the adjusting parts 30 with a predetermined pressure. In other words, while the quantity adjusting cover 20 is rotated, if the adjusting prominences 20c are rubbed against the engaging projections 30a and 30b of the adjusting parts 30, the adjusting prominences 20c are temporarily stopped on the engaging projections 30a and 30b and then are rotated again. Therefore, while a user rotates the quantity adjusting cover 20, every time when the adjusting prominences 20c are rubbed against the engaging projections 30a and 30b of the adjusting parts 30, it is possible to confirm a rotated position of the quantity adjusting cover 20. When the quantity adjusting cover 20 is rotated to a desired position, rotation of the quantity adjusting cover 20 is interrupted, and then, a quantity of powdered milk which is indicated by an arrow marked on the quantity adjusting cover 20, can be discharged out of the container.

If a frictional pressure between the adjusting prominence

20c and the adjusting part 30 is less than the predetermined pressure, while rotatability of the quantity adjusting cover 20 is enhanced, a temporary stopping function for the adjusting prominences 20c cannot be adequately secured. On the contrary, if the frictional pressure is greater than the predetermined pressure, while a temporary stopping function for the adjusting prominences 20c is secured, rotatability of the quantity adjusting cover 20 is degraded. Accordingly, in order to simultaneously secure rotatability of the quantity adjusting cover 20 and a temporary stopping function for the adjusting prominences 20c, a pair of cut lines 20d are formed, in a circumferential direction, through a predetermined angle on the quantity adjusting cover 20 above and below the adjusting prominence 20c so that the adjusting prominences 20c can be rubbed against the adjusting parts 30 of the powdered milk storing section 12 with a predetermined flexibility.

When the quantity adjusting cover 20 is rotated around the powdered milk storing section 12, a phenomenon in which the quantity adjusting cover 20 is moved upward by inertia force, occurs. Therefore, as shown in FIG. 4, an upward movement preventing protuberance 12d is formed above the circumferential outward flange 12c on the circumferential outer surface of the powdered milk storing section 12 to prevent the quantity adjusting cover 20 from being moved upward while being rotated,

whereby the quantity adjusting cover 20 can always be held at the same location.

The powdered milk discharging cap 24 is coupled to the lower end of the powdered milk storing section 12 to guide discharge of powdered milk from the quantity adjusting section 14. The powdered milk discharging cap 24 has a funnel-shaped discharging port 24a. An external thread is formed on a circumferential outer surface of and adjacent to an upper end of the powdered milk discharging cap 24, and an internal thread is formed on the circumferential inner surface of and adjacent to the lower end of the powdered milk storing section 12. Due to this, the powdered milk discharging cap 24 is threadedly coupled to the powdered milk storing section 12.

The lower cover 28 functions to close the discharging port 24a of the powdered milk discharging cap 24, thereby maintaining the powdered milk discharging cap 24 in a cleaned status. A cylindrical surrounding wall part 28a is formed on a center portion of the lower cover 28. The cylindrical surrounding wall part 28a has a diameter which is slightly larger than a diameter of the discharging port 24a of the powdered milk discharging cap 24. The cylindrical surrounding wall part 28a possesses a predetermined height. Due to the fact that the surrounding wall part 28a is cut downward at several points from an upper end thereof along an axial

direction by a preselected distance, respective cut pieces of the surrounding wall part 28a have a predetermined elasticity. Due to this, by pressing upward the lower cover 28 toward the powdered milk discharging cap 24, the lower cover 28 is one-touch coupled to the powdered milk discharging cap 24. On the contrary, by pulling downward the lower cover 28 from the powdered milk discharging cap 24, the lower cover 28 is one-touch decoupled from the powdered milk discharging cap 24. If excessive force is applied to the powdered milk discharging cap 24 by the lower cover 28, it is difficult to couple and decouple the lower cover 24 to and from the powdered milk discharging cap 24. On the contrary, if insufficient force is applied to the powdered milk discharging cap 24 by the lower cover 28, the lower cover 28 may be spontaneously decoupled from the powdered milk discharging cap 24, whereby functionality of the lower cover 28 cannot but be deteriorated. Consequently, it is preferred that the surrounding wall part 28a is adequately cut in consideration of its elasticity after cutting.

Hereinafter, an assembling procedure of the portable powdered milk container constructed as mentioned above will be described in detail.

First, after the powdered milk storing section 12 is held upside down, the upper partitioning member 16 is fitted into

the powdered milk storing section 12. In other words, due to the fact that the first fastening grooves 16a are defined on the circumferential outer surface of the upper partitioning member 16 and the first protrusions 12a to be respectively engaged into the first fastening grooves 16a are formed on the circumferential inner surface of the powdered milk storing section 12, if the upper partitioning member 16 is inserted into the powdered milk storing section 12 and then rotated leftward or rightward, as the first protrusions 12a are engaged into the first fastening grooves 16a, the upper partitioning member 16 is fastened with respect to the powdered milk storing section 12. At this time, the upper cover 26 for opening and closing the powdered milk storing section 12 is coupled to the upper end of the powdered milk storing section 12.

After the upper partitioning member 16 is fastened with respect to the powdered milk storing section 12, the quantity adjusting section 14 is fitted into the powdered milk storing section 12 to be placed on the upper partitioning member 16. Namely, by the fact that the rotation shaft 16b is formed on the center portion of the upper partitioning member 16 and the shaft hole 14b is defined through the center portion of the quantity adjusting section 14, by fitting the quantity adjusting section 14 into the powdered milk storing section 12 such that the rotation shaft 16b is inserted into the shaft

hole 14b, the quantity adjusting section 14 can be fixedly maintained while being allowed to be rotated about the rotation shaft 16b.

After the quantity adjusting section 14 is fastened with respect to the powdered milk storing section 12, the lower partitioning member 18 is fitted into the powdered storing section 12 to be placed on the quantity adjusting section 14. That is to say, due to the fact that the second protrusions 18a are formed on the circumferential outer surface of the lower partitioning member 18 and the second fastening grooves 12b to be respectively engaged by the second protrusions 18a are defined on the circumferential inner surface of the powdered milk storing section 12, if the lower partitioning member 18 is inserted into the powdered milk storing section 12 and then rotated leftward or rightward, as the second protrusions 18a are engaged into the second fastening grooves 12b, the lower partitioning member 18 is fastened with respect to the powdered milk storing section 12. At this time, since the lower partitioning member 18 is fastened with respect to the powdered milk storing section 12 while having a phase difference of 180° from the upper partitioning member 16, the first and second openings of the first and second partitioning members 16 and 18 are oppositely arranged to each other.

After the lower partitioning member 18 is fastened with

respect to the powdered milk storing section 12, the powdered milk discharging cap 24 is coupled to the lower end of the powdered milk storing section 12. In other words, the external thread is formed on the circumferential outer surface of and adjacent to the upper end of the powdered milk discharging cap 24, and the internal thread is formed on the circumferential inner surface of and adjacent to the lower end of the powdered milk storing section 12. Due to this, the powdered milk discharging cap 24 is threadedly coupled to the lower end of the powdered milk storing section 12. At this time, the powdered milk discharging cap 24 is brought into close contact with the lower partitioning member 18 to prevent the lower partitioning member 18 from being moved downward.

After the powdered milk discharging cap 24 is coupled to the powdered milk storing section 12, the quantity adjusting cover 20 is fitted around the powdered milk storing section 12. Namely, after the connecting hole 20a defined through the quantity adjusting cover 20 is aligned with the pin hole 14c radially defined in the quantity adjusting section 14, by inserting the connection pin 22 through the connecting hole 20a and the pin hole 14c, the quantity adjusting section 14 and the quantity adjusting cover 20 can be integrally rotated with each other along the guide slot 32. Due to the fact that the powdered milk storing section 12 is defined with the guide slot

32 through which the connection pin 22 can be moved, if the quantity adjusting cover 20 is rotated, the quantity adjusting section 14 which is connected with the quantity adjusting cover 20 by the medium of the connection pin 22, is integrally rotated with the quantity adjusting cover 20. Also, a connection pin locking part 22a is formed on a circumferential outer surface of the quantity adjusting cover 20 adjacent to the connecting hole 20a so that the connection pin 22 is prevented from being fluctuated after inserted through the connecting hole 20a and the pin hole 14c to connect the quantity adjusting cover 20 and the quantity adjusting section 14 with each other. In the above descriptions, the quantity adjusting cover 20 and the powdered milk discharging cap 24 can be assembled in a reverse order in consideration of user convenience.

After the quantity adjusting cover 20 is fitted around the powdered milk storing section 12, the lower cover 28 is finally one-touch coupled to the powdered milk discharging cap 24.

When it is necessary to disassemble the portable powdered milk container assembled as described above, after removing the connection pin 22, the lower cover 28, quantity adjusting cover 20, powdered milk discharging cap 24, lower partitioning member 18, quantity adjusting section 14, upper partitioning member 16

are disassembled in that order.

Hereinbelow, operations and a way of using the portable powdered milk container assembled as described above will be described.

After opening the upper cover 26, powdered milk is filled into the powdered milk storing section 12. The powdered milk which is filled in the powdered milk storing section 12, is also filled into the accommodating compartments 14a of the quantity adjusting section 14. The upper partitioning member 16 is positioned on the upper end of the quantity adjusting section 14. At this time, because only the one half of the upper partitioning member 16 is opened and the other half of the upper partitioning member 16 is closed, the powdered milk is filled into the accommodating compartments 14a after passing through the opened one half of the upper partitioning member 16. More concretely speaking, the powdered milk is filled only into the accommodating compartment(s) which is(are) positioned directly below the opened one half of the upper partitioning member 16. When the quantity adjusting section 14 is initially aligned with the upper partitioning member 16 in a manner such that all of the accommodating compartments 14a are positioned directly below the opened one half of the upper partitioning member 16, all of the accommodating compartments 14a are initially filled with the powdered milk. Here, at an initial

position of the quantity adjusting section 14, the arrow marked on the circumferential outer surface of the quantity adjusting cover 20 indicates 0 among the scales provided on the powdered milk storing section 12.

From the initial position of the quantity adjusting section 14, if the quantity adjusting cover 20, that is, the quantity adjusting section 14 is rotated while the quantity adjusting cover 20 is grasped with one hand and the powdered milk storing section 12 is grasped with the other hand, the quantity adjusting cover 20 is rotated along the guide slot 32. At this time, since 5 scales (respectively corresponding to 200 ml, 400 ml, 600 ml, 800 ml and 1,000 ml) are provided on the powdered milk storing section 12, the user can rotate the quantity adjusting cover 20 to a desired angular position. For example, if the quantity adjusting cover 20 is rotated so that the arrow indicates a scale which corresponds to 200 ml, the quantity adjusting section 14 which is integrally rotated with the quantity adjusting cover 20, is also rotated by an angle through which one accommodating compartment 14a is defined. That is to say, because five accommodating compartments 14a are defined in the quantity adjusting section 14 and one scale appeared on the powdered milk storing section 12 corresponds to an angle measured from one accommodating compartment 14a to another adjoining accommodating compartment 14a, the quantity

adjusting section 14 is rotated by the angle through which one accommodating compartment 14a is defined. An angle through which the guide slot 32 is defined, is employed to determine a rotation angle of the quantity adjusting cover 20 and approximately corresponds to a rotation angle of 180° of the quantity adjusting section 14.

As the quantity adjusting section 14 is rotated, the powdered milk which is filled into the accommodating compartments 14a of the quantity adjusting section 14, is discharged into the powdered milk discharging port 24 through the opened one half of the lower partitioning member 18. At this time, due to the fact that the upper and lower partitioning members 16 and 18 have the phase difference of 180° , since upper ends of the accommodating compartments 14a of which powdered milk is discharged, are covered by the upper partitioning member 16, further discharge of powdered milk does not occur. If the quantity adjusting cover 20 is continuously rotated, as shown in FIGs. 5a, 5b, 5c and 5d, as the accommodating compartments 14a of the quantity adjusting section 14 are sequentially opened, the powdered milk is discharged through the opened one half of the lower partitioning member 18. At this time, as described above, since the upper partitioning member 16 has the phase difference of 180° from the lower partitioning member 18, further

discharge of the powdered milk does not occur.

By the fact that the adjusting parts 30 are formed on the circumferential outer surface of the powdered milk storing section 12 directly below the respective scales, while the quantity adjusting cover 20 is rotated, if the adjusting prominences 20c of the quantity adjusting cover 20 are rubbed against the engaging projections 30a and 30b of the adjusting parts 30, by interrupting the rotation of the quantity adjusting cover 20 and viewing the scales, it is possible to confirm a quantity of powdered milk to be discharged through the powdered milk discharging cap 24.

While the quantity adjusting cover 20 is rotated, even though upward biasing inertia force is developed therein, the quantity adjusting cover 20 is prevented from being moved upward by the presence of the upward movement preventing protuberance 12d which is formed on the circumferential outer surface of the powdered milk storing section 12.

After a desired quantity of powdered milk is discharged out of the container by rotating the quantity adjusting cover 20, as the quantity adjusting cover 20 is returned to its original position, powdered milk is refilled into the accommodating compartments 14a. In case that an increased amount of powdered milk is needed, the quantity adjusting cover 20 can be repeatedly rotated and returned to its original

position.

Industrial Applicability

The portable powdered milk container according to the present invention provides advantages in that, since it is possible to precisely adjust a quantity of powdered milk, a desired quantity of powdered milk can be reliably discharged, and, since the container is small and light, it can be conveniently used not only indoors but also outdoors while being carried around. Also, because the container can be handled in a simple way, anyone can easily use the container, and, because the portable powdered milk container can be easily disassembled by removing a connection pin, the container can be easily washed. Further, it is not necessary to disassemble and assemble the container upon supplying powdered milk into the container. Moreover, as a most important feature of the present invention, the desired quantity of the powdered milk can be precisely dispensed through rotation of a quantity adjusting section due to the presence of a plurality of accommodating compartments which are defined in a quantity adjusting section.

In the drawings and specification, there have been disclosed typical preferred embodiments of the invention and, although specific terms are employed, they are used in a

generic and descriptive sense only and not for purposes of limitation, the scope of the invention being set forth in the following claims.

What is claimed is:

1. A portable powdered milk container comprising:

a cylindrical powdered milk storing section for storing powdered milk;

a quantity adjusting section placed in the powdered milk storing section and formed into a cylindrical structural body which has a plurality of accommodating compartments each for accommodating a predetermined quantity of powdered milk, the accommodating compartments being defined only in one half of the structural body;

an upper partitioning member having one half which is defined with a first opening and the other half which is formed to have a plate-shaped contour, the upper partitioning member being placed in the powdered milk storing section prior to the quantity adjusting section, to fix a position of the quantity adjusting section arranged underneath it;

a lower partitioning member having one half which is defined with a second opening and the other half which is formed to have a plate-shaped outline, the lower partitioning member being placed in the powdered milk storing section posterior to the quantity adjusting section while having a phase difference of 180° from the upper partitioning member, to fix the position of the quantity adjusting section arranged

over it;

a quantity adjusting cover fitted around the powdered milk storing section and connected with the quantity adjusting section by a connection pin in such a way as to be integrally rotated with the quantity adjusting section;

a powdered milk discharging cap coupled to a lower end of the powdered milk storing section and having a funnel-shaped discharging port which guides discharge of powdered milk from the quantity adjusting section; and

an upper cover coupled to an upper end of the powdered milk storing section.

2. The container as claimed in claim 1, further comprising a lower cover capable of being coupled to and decoupled from the discharging port of the powdered milk discharging cap.

3. The container as claimed in claim 1, wherein the powdered milk storing section is defined, on a circumferential outer surface thereof, with a guide slot for allowing the quantity adjusting cover to be rotated within a predetermined range of angles.

4. The container as claimed in claim 1, wherein a

plurality of adjusting parts are formed on the circumferential outer surface of the powdered milk storing section to be spaced apart one from another by a predetermined angle so that the quantity adjusting cover can be rubbed against the adjusting parts to be momentarily stopped, and a plurality of adjusting prominences are formed on a circumferential inner surface of the quantity adjusting cover to be rubbed against the adjusting parts of the powdered milk storing section.

5. The container as claimed in claim 1, wherein an upward movement preventing protuberance is further formed on the circumferential outer surface of the powdered milk storing section to prevent the quantity adjusting cover from being moved upward while being rotated.

6. The container as claimed in claim 1, further comprising a receiving canister coupled to an upper end of the upper cover for receiving nursing implements.

7. The container as claimed in claim 1, wherein a circumferential inward flange is formed on a circumferential inner surface of and adjacent to a lower end of the quantity adjusting cover so that the quantity adjusting cover having a larger diameter than the powdered milk storing section is not

loosened after being fitted around the powdered milk storing section.

8. The container as claimed in claim 1, wherein the plurality of accommodating compartments are continuously defined through the same angle along a circumferential direction.

9. The container as claimed in claim 1, wherein a connection pin locking part is formed on a circumferential outer surface of the quantity adjusting cover so that the connection pin is prevented from being fluctuated after connecting the quantity adjusting cover and the quantity adjusting section with each other.

10. The container as claimed in claim 1, wherein a cylindrical surrounding wall part is formed on a center portion of the lower cover so that the surrounding wall part can be one-touch coupled to and decoupled from the discharging port of the powdered milk discharging cap.

11. The container as claimed in claim 1, wherein a pair of cut lines are formed through a predetermined angle on the quantity adjusting cover above and below the adjusting

protuberance so that the adjusting protuberances can be rubbed against the adjusting parts of the powdered milk storing section with a predetermined flexibility.

FIG. 1

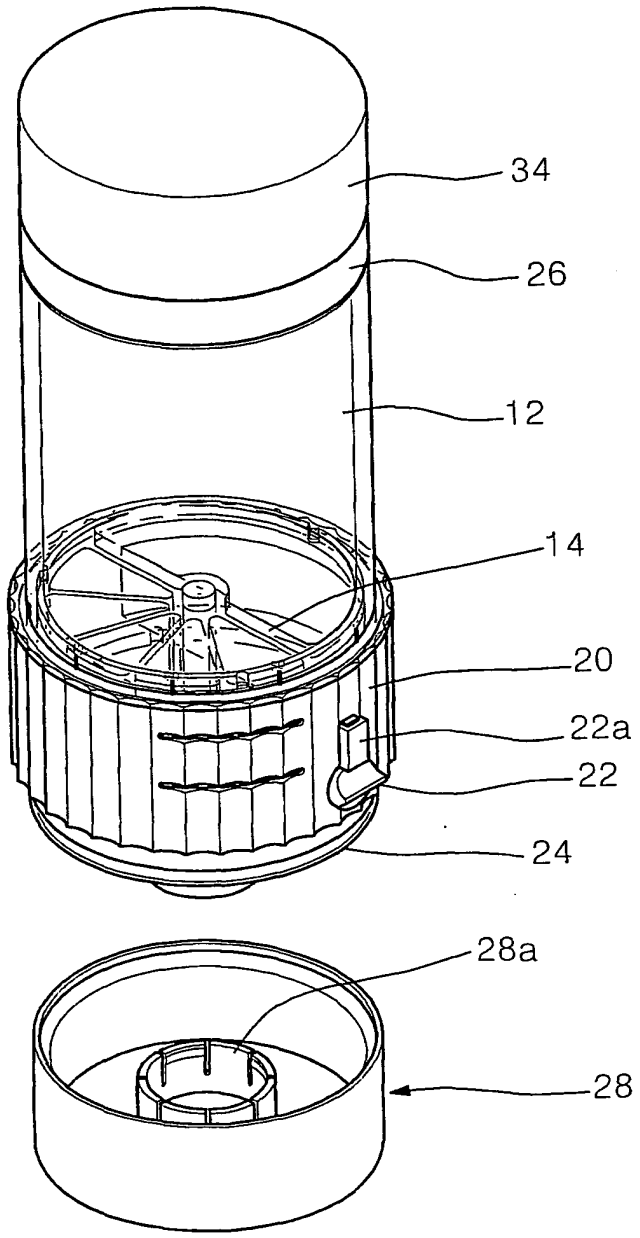
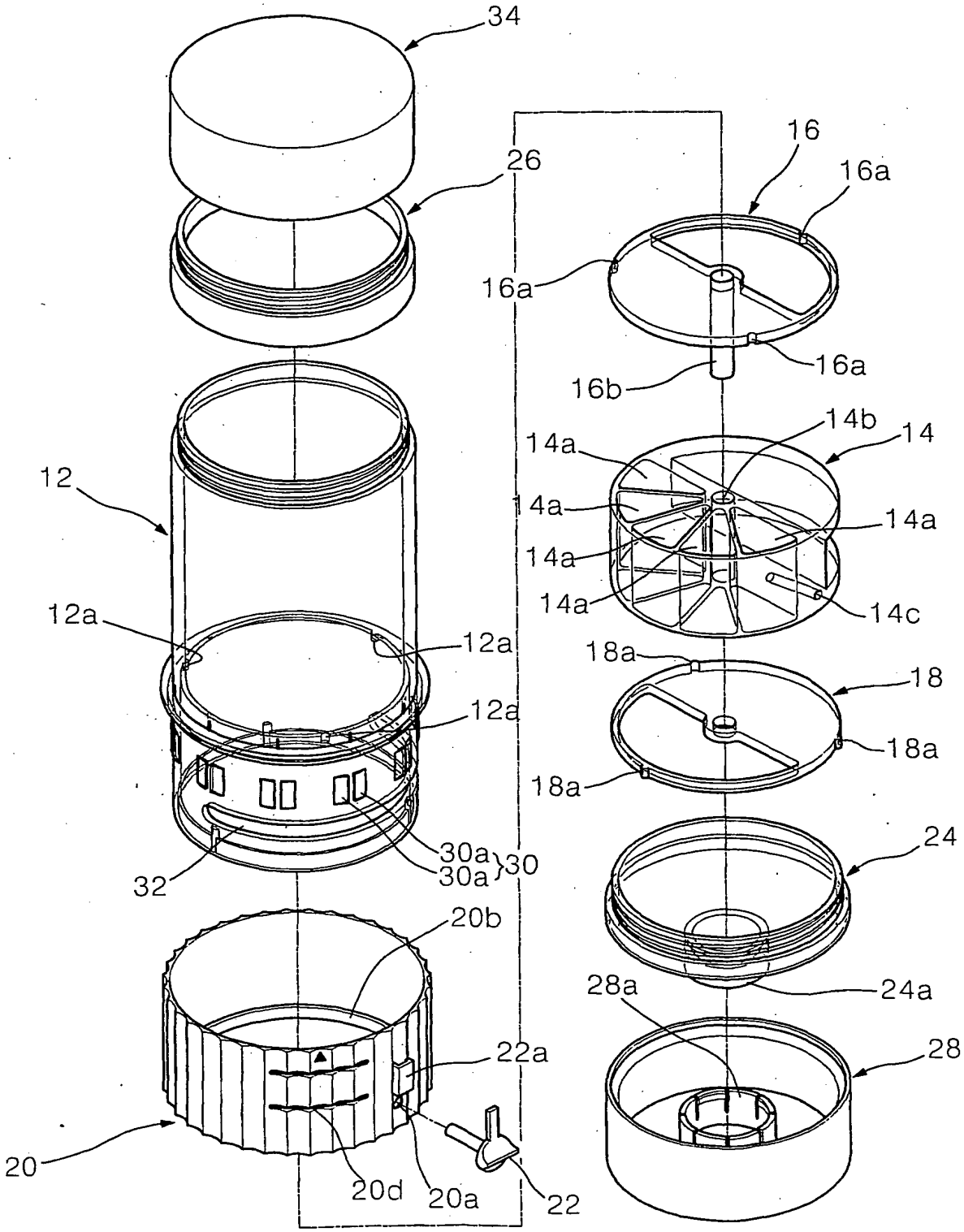


FIG. 2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22

FIG. 3

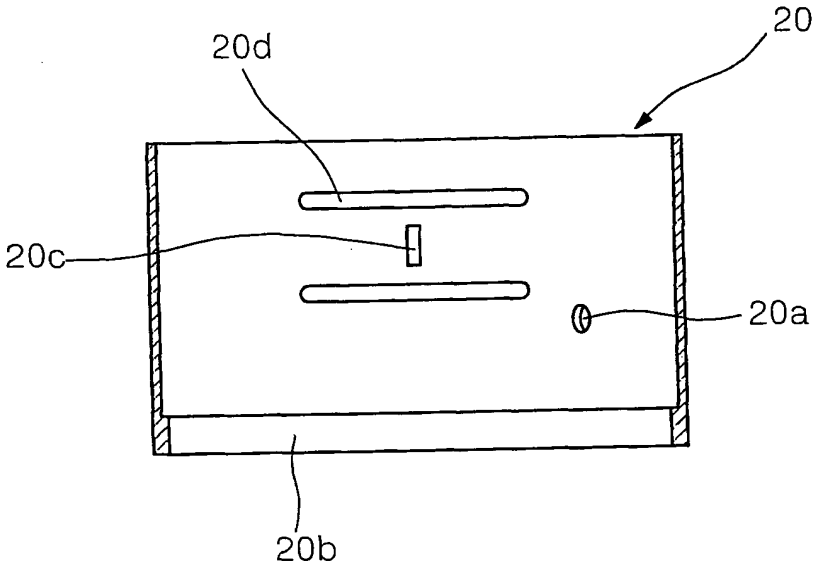


FIG. 4

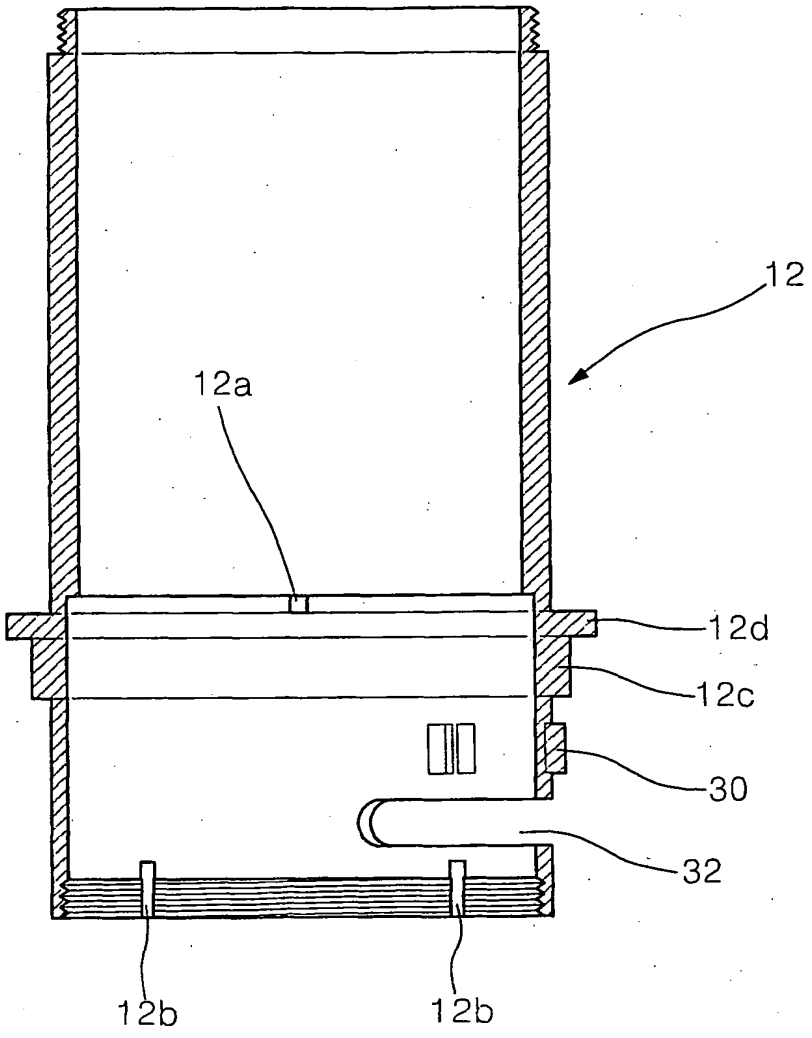


FIG. 5A

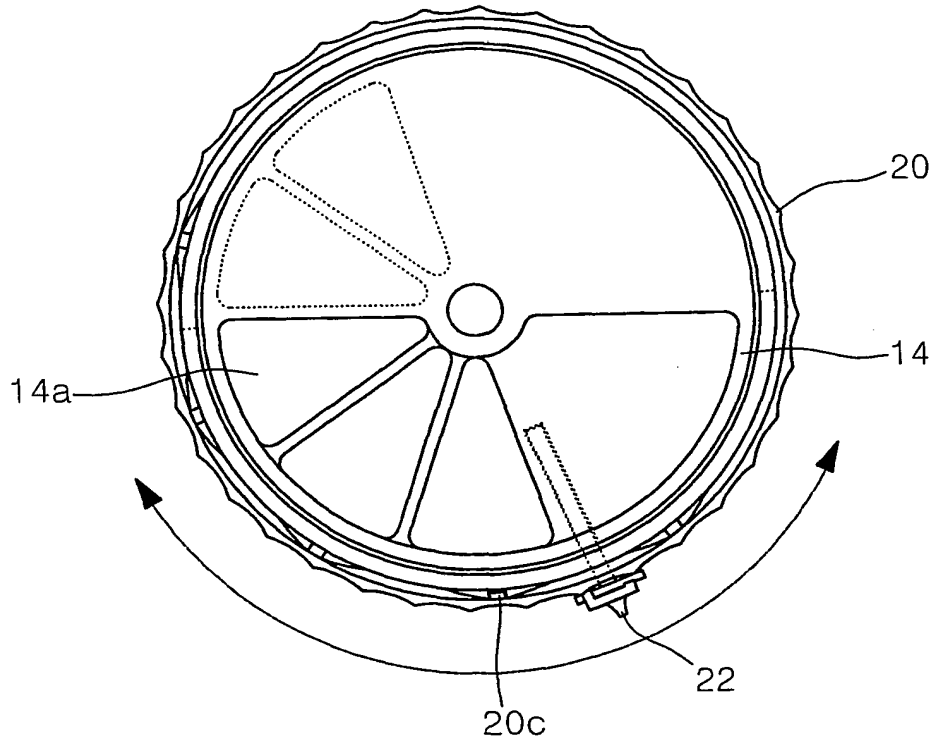


FIG. 5B

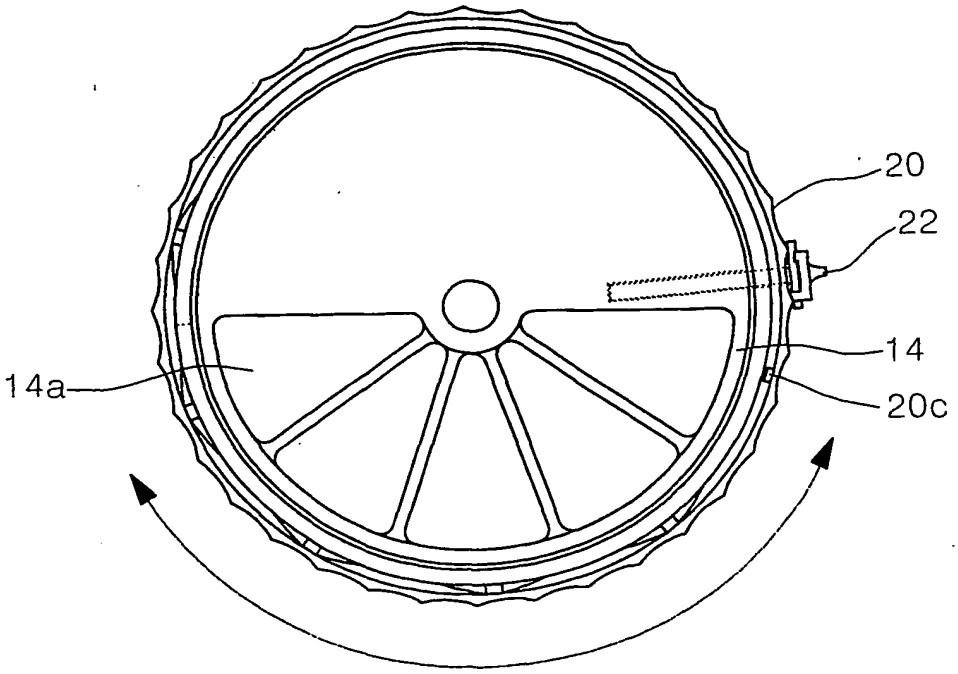


FIG. 5C

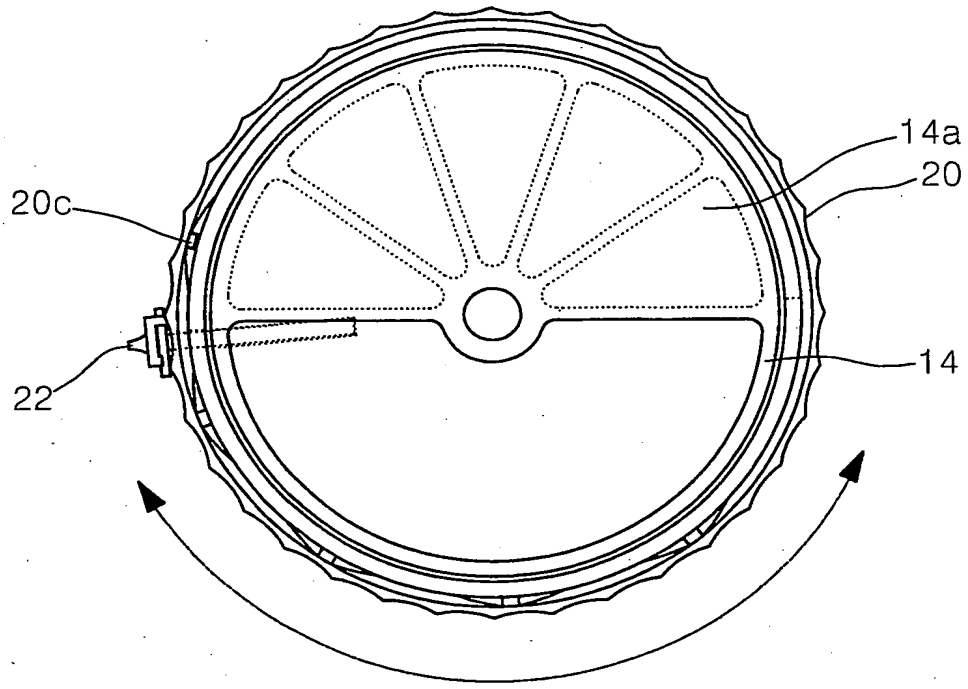
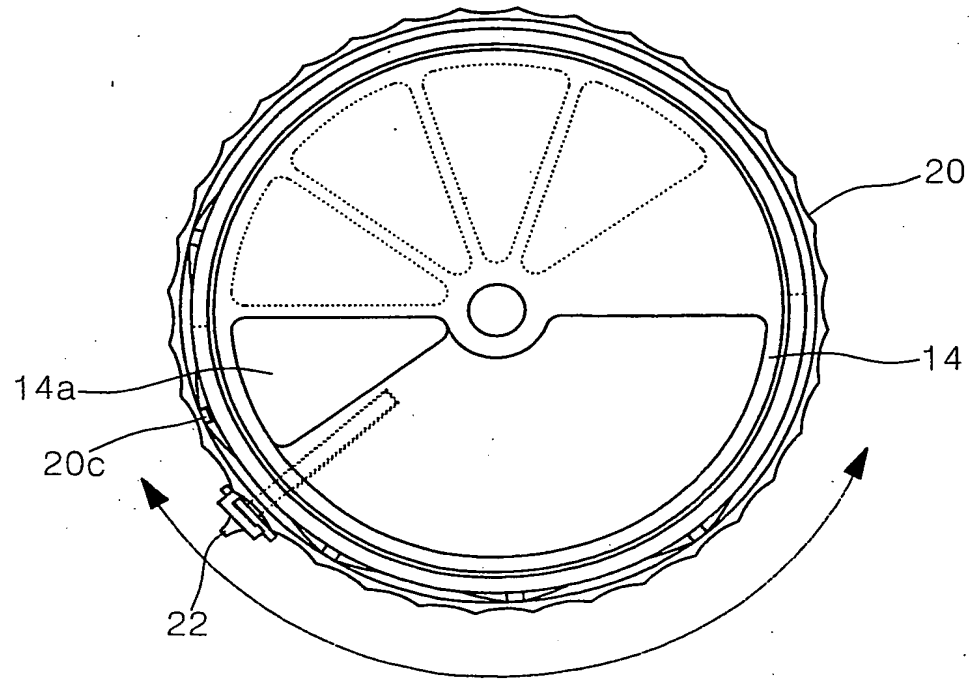


FIG. 5D



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR01/01355

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 B65D 8/00, B65D 25/02, B65D 83/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimun documentation searched (classification system followed by classification symbols)

IPC7 B65D 8/00, B65D 25/02, B65D83/06

Documentation searched other than minimun documentation to the extent that such documents are included in the fileds searched

KR, JP : classes as above

Electronic data base consulted during the intertnational search (name of data base and, where practicable, search trerms used)

NPS, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 1998-0000809 U (JUNG-KUN KIM), 30 MARCH 1998 (30.03.1998), whole document	1-11
A	KR 1998-032387 U (BYUNG-SUN WOO), 05 SEPTEMBER 1998 (05.09.1998), whole document	1-11
A	GB 2296711 A (TIEN LIN YU MEI), 10 JULY 1996 (10.07.1996), abstract, Fig. 2	1-11

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevence; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 NOVEMBER 2001 (21.11.2001)	23 NOVEMBER 2001 (23.11.2001)

Name and mailing address of the ISA/KR	Authorized officer
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